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**Working Capacity of the Healed Tuberculosis Patient.**—Funds devoted to vocational guidance of recovered tuberculosis patients are a legitimate and wise investment. Readaptation should begin before recovery is complete in order to bring about gradually the necessary readjustments or even a change of occupation, however hard the latter may prove. In Argentina only a few and circumscribed attempts have been made in this direction, such as Cetrángolo's at the Santa María Sanatorium and the National Central Hospital. Nores at Our Lady of Mercy Hospital combines treatment with training in weaving and through private coöperation has opened a 22-bed pavilion for healed women patients. The late Raimondi was one of the pioneers in this campaign. Poultry raising seems an ideal occupation for patients on the way to recovery or already recovered as the work required is comparatively easy and not hard to learn, the market is ready at hand and the business may be undertaken on an individual small scale. It might even be possible to open at some sanatoria aviculture schools with enrollments of about 100 students. —*Capacidad laborativa del tuberculoso recuperado, J. F. Verna, S. A. Sarmiento, J. G. Rodríguez & B. Perrier, Arch. de Secretaria de Salud Púb. Nac., January, 1947, 1: 31.*—(*A. A. Moll*)

**Occupational Tuberculosis.**—The concept of tuberculosis as an occupational disease has been gradually gaining in acceptance in the United States. In Peru the only provisions made by law for occupational disease apply to pneumonoconiosis or any other disease acquired at work through intoxication with gases derived from chemical products. X-ray surveys of workers in various industries in Peru revealed the following regarding the incidence of tuberculosis (the first percentage indicates clinically active disease, the second, suspicious): shoe factories, of 924, 3.46 per cent, 1.19 per cent; textile mills, of 1,522, 2.03 per cent, 1.90 per cent; glass manufacture, of 316, 1.89 per cent, 1.89 per cent; pharmaceutical products, of 356, 3.94 per cent, 1.92 per cent; dairy farms, of 197, 1.01 per cent, 3.04 per cent. In order to arrive at a proper scientific evaluation of tuberculosis as an occupational disease, the following steps are considered necessary: (*1*) intensification of X-ray surveys with more emphasis on the type of work performed by the individuals examined; (*2*) international accord on methods of social investigation with a view to analysis of possible determinative factors, with remedial legislation in mind; (*3*) accord on occupational nomenclature. The occupational nature of tuberculosis, from the legal point of view, in people working with tuberculous patients is undeniable, and should be so recognized.—*Datos sobre tuberculosis ocupacional, O. Garcia Rosell, Rev. de tuberc. de Peru, January-June, 1947, 24: 971.*—(*F. Perez-Pina*)

**Tuberculo-pneumonoconiosis of Coal Miners in Belgium.**—The author limits his paper to a discussion of X-ray examinations made during his service at an antituberculosis dispensary in a mining district in Belgium (Mons). About 90 per cent of the miners were exposed to rock dust containing silica.

Reproductions of twenty-four typical X-ray films accompany the paper. In the early stages of silicosis, the shadows of the lungs have a finely granular or granite-like quality which is produced by the intersections of a very fine network of fibrous strands. At this stage there are few symptoms or physical signs. A little later these nodules are larger and distributed symmetrically in the central areas of the two lungs. Such radiological findings are typical of uncomplicated silicosis and are rarely accompanied by symptoms. They are accidentally met with in the course of surveys when the entire group of miners is examined. After a time, in infected cases, shadows appear which indicate the presence of a tuberculous element. As described by Courtois, they consist, in closed cases, of the development on the granular background of (*a*) trabeculo-nodular opacities which are more evident at one or both of the apices, (*b*) of lines indicating inflammation of the interlobar or lobar pleura, (*c*) of limited unilateral clouding, and (*d*) of an appearance suggesting migration and coalescence of the nodules in certain parts of the lung which are designated by Courtois as centres of attraction. In open cases of tuberculo-pneumonoconiosis there are, in addition, limited honeycombed areas and other indications of cavitation. Finally, indications of retraction of the lung and of compensatory emphysema appear, which are often adjacent to the cloud-like or honeycombed areas. Deviation of the trachea occurs, tenting of the diaphragm, and further breaking down of adjacent lung tissue. The heart in young subjects is hypertrophied and the aorta becomes tortuous and elongated. In other cases the development is different and, instead of a somewhat granular and disseminated nodular appearance followed by concentration and breaking down of coalescing areas of nodulation, there seem to develop large pseudo-tumorlike masses. Such shadows may be found in silicosis without tuberculosis, and are then usually central. When tuberculosis is added, they are apt to be less symmetrical and to be found also at the apex or base, and to be accompanied with the other indications of tuberculosis already listed. Tuberculosis has been twice as frequent among the miners in Belgium, especially in workers over 40, as it has been among other laborers. The present underfed and exhausted state of many miners indicates probable increase in the number of open cases. Most of the miners work in hard rock, but even those who have not apparently been as directly exposed to silica dust develop some silicosis, possibly from siliceous dust which has settled in the bottom of the mine. Some of these men have previously worked in other mines where they have been directly exposed to silica. Compensation should be available for silicosis developing in workers in any of the mines.—*Considerations radio-cliniques sur la tuberculopneumoconiose des houilleurs, A. Joucot, Rev. belge de tuberc., 1947, No. 2, 97.—(A. T. Laird)*

**Quiescent Pulmonary Tuberculosis.**—The author pleads for more exacting standards in assessing the "quiescent" case of pulmonary tuberculosis. In the no-sputum case, one should try to obtain material by laryngeal swab, gastric lavage or pulmonary lavage. The laryngeal swab is preferred in a busy clinic. In 152 cases with no sputum, laryngeal swab gave 34 positive results. In 32 cases, all three procedures were used; in 5 of these, positive results were obtained by all three methods. One was positive on pulmonary lavage alone and 2 on laryngeal swab alone. One was positive on both gastric and pulmonary lavage. Negative results by all methods were obtained in 23 cases. Pulmonary lavage is the only method in which smears are reliable; in the others, cultures are necessary.—*The "Quiescent" Case of Pulmonary Tuberculosis, J. Cuthbert, Tubercle, October, 1947, 28: 211.—(A. G. Cohen)*

**Tuberculous Pleural Effusion.**—In a series of 233 patients with pleural effusion seen from 1935 to 1944, 40 had pulmonary tuberculosis on initial examination. The lesions were classified as minimal in 16, moderately advanced in 19 and far advanced in 5 cases.

The type of lesion was fibroid in 20 (6), fibrocalcific in 8 (1), nodular in 3, fibrocaseous in 6 (5), caseous pneumonic in 2 and miliary in one (1); the numbers with positive sputum are indicated in parentheses. No collapse therapy was given. The patients were followed until 1946; by then 5 had died, 34 were alive and one was lost to observation. Of the living patients, 7 had active pulmonary tuberculosis. Pleural effusion in chronic pulmonary tuberculosis is not rare. Its onset is not correlated with any particular trend in the disease and the effusion often strikes an apparently well patient. Often there are few symptoms.—*Secondary Pleurisy with Effusion in Pulmonary Tuberculosis, B. C. Thompson, Tubercle, November, 1947, 28: 229.—(A. G. Cohen)*

**Hematogenous Tuberculosis.**—Localized hematogenous spread in pulmonary tuberculosis often shows a tendency to spontaneous healing by resolution, calcification and fibrosis. Healing may take place within six months and is determined by disappearance of the roentgenological manifestations and when numerous sputum tests have been found to be negative.—*Spontaneous Healing of Localized Hematogenous Spread in Pulmonary Tuberculosis, L. Dunner, Am. J. Roentgenol., September, 1947, 58: 283.—(J. E. Farber)*

**Primary Thoracoplasty *versus* Pneumothorax.**—Fundamentally, the indications for thoracoplasty and for pneumothorax are the same. The types of lesions amenable to both types of treatment are identical, with the exception of caseous pneumonia, in which a pneumothorax is indicated and a thoracoplasty contraindicated. Other factors which may contraindicate thoracoplasty, but may permit attempted pneumothorax, are dyspnea, fever, tachycardia, cyanosis, heart disease, renal disease, diabetes, and extrapulmonary tuberculosis. However, some cases with dyspnea, cyanosis and tachycardia due to mediastinal shift produced by the tuberculous process may improve following correction by a thoracoplasty. The mortality in thoracoplasty ranges between 7 and 11 per cent. This is no higher than that of similar cases treated with pneumothorax with the known incidence of complications of the latter. In 200 cases treated by thoracoplasty there were 85 per cent cured and inactive among those followed for one to two years, and 75 per cent among those observed for two to three years. These percentages refer to clinical, X-ray and bacteriological cures. Among cases of pneumothorax with the same type of lesions observed for an average of three years, good results were obtained in only 58 per cent. Economically, primary thoracoplasty reduces the length of sanatorium care required. A higher proportion of patients reach the surgeon in better general condition, with consequent reduction in operative mortality figures and with optimal long-range results.—*La toracoplastia precoz, sustitutiva del neumotórax, A. Perera, Rev. españ. de tuberc., July, 1947, 16: 551.—(F. Perez-Pina)*

**Spirography in Collapse Therapy.**—Spirographic measurements were made on individuals before and after subjection to various collapse measures. The results were expressed as percentages of the expected normal for each height as previously determined for Spaniards. With intrapleural pneumothorax there was a reduction of 20 to 45 per cent in vital capacity, mostly in the complementary air fraction, with some diminution in almost all of the other values. After phrenic nerve interruption there was a reduction of about 30 per cent in the corresponding values, which was proportionally less if the function of the base had been previously reduced by pleural thickening. Thoracoplasty resulted in a diminution of 14 to 25 per cent in the vital capacity, with significant reduction of the complementary air fraction. The other respiratory indices were also reduced. In extrapleural pneumothorax there were minimal alterations of all the values, with improvement in some of them.—*Consideraciones espirográficas sobre los procederes colapsoterápicos, J. Codina Suqüe, J. Gonzalez-Quijano*

*& G. de la Peña, Rev. españ. de tuberc., June, 1947, 16: 473.—(F. Perez-Pina)*

**Thoracoplasty.**—One hundred cases are reported. These were done at the sanatorium de Seyssuel near Vienne in the department of Isere in France, by Dr. J. de Rougement, from April, 1942 to October, 1945. Many of the patients had been discharged as hopeless from sanatoria in the Alps or Jura mountains, and had been sent back to the plain to die. The authors believe a considerable portion should have been discharged earlier to get the benefit of operative treatment. The results are tabulated as follows: cured, 63; improved, 20; stationary, 1; failed, 2; operative deaths, 9; secondary mortality 5 per cent. They consider as "cured" all cases which showed effacement of lesions radiographically and constantly negative sputum. Five patients have since gone through pregnancy without relapse. All of the thoracoplasties were done with the patient in the sitting posture, with ether or Evipan as the basic general anesthetic. However, Rougement prefers local anesthesia and expects to use it more in the future. The sitting posture of the patient, he believes, offers several advantages. Anemia of the operative field as an indication of impending shock is more readily noted. Hemostasis is easier. Apicolysis when indicated is more readily done because of better visibility. Resections of ribs, especially of the first, are simplified. Vascular accidents are not more frequent. Rather long sections of the ribs were removed, never less than 90 cm. in five ribs, usually about 100 cm., and in one case 141 cm. for six ribs. The first rib was always entirely removed. Care was taken to repair any openings into the pleural cavity with muscle tissue from the corresponding intercostal space in order to prevent drainage into it of any blood of extrapleural origin. After the rib sections have been removed, the question of apicolysis arises. Rougement has used the Semb technique but considers that the maneuver is often difficult and has abandoned it. He does not employ any apicolysis (*1*) if it prolongs the operation too much, (*2*) if the pulmonary lesions are too extensive or too superficial, (*3*) if there is too much fibrosis, (*4*) if the pulmonary settling is sufficient without it. The authors classify indications for thoracoplasty as: (*1*) Typical indications in cases in which the lesion is limited, there is a retractile tendency, the opposite side is satisfactory and the general condition is good. (*2*) Relative indications, present in cases in which there are more or less serious complications. (*3*) Salvage indications, the operation being done as a last resort in desperate cases. (*4*) Pleuro-pulmonary cases, that is, cases of purulent pleurisy with underlying pulmonary lesions, nearly always active. (*5*) Elective thoracoplasties for basal lesions, of which the authors report 3 that were unsuccessful. Cases where indications for operation were favorable gave 90 per cent cures. Where operation was a last resort, 50 per cent were cured and 30 per cent were aggravated or died, with an operative mortality of 17 per cent. With pleuro-pulmonary indications, 70 per cent were cured.—*Cent cas de thoracoplasties en sanatorium de plaine, L. Meyer & J. do Rougement, Le Poumon, May–June, 1947, 3: 185.—(A. T. Laird)*

**Apical Thoracoplasty.**—Apical thoracoplasty in a series of 70 patients has been found to produce effective cures in 42 cases after a minimum of three years follow-up. Of the 70 patients, 80 per cent had cavities above the second costal cartilage, ranging in size from three to more than six centimeters. Contralateral lesions were present in 35 of the patients, although in most cases the process was thought to be inactive. One-stage removal of three to five ribs, with apicolysis in 51 of the cases, was the procedure employed in this series with a postoperative mortality rate of 5.7 per cent. Follow-up studies were made in all cases for at least three years after surgery. Healthy patients comprised 60 per cent of the original series (75 per cent of the surviving patients), with roentgenological evidence of stationary lesions, no cavities and no new spreads, negative sputum cultures and/or negative gastric cultures and no com-

plications such as dyspnea, fistulae, etc. All other surviving patients, of which there were 13, were considered to be ill. In general, best results were obtained in those patients having the smallest cavities and no contralateral disease.—*The Permanent Results of Apical Thoracoplasty, Hagn-Meincke, Acta tuberc. Scandinav., 1947, 21: 190.*—(*P. Q. Edwards*)

**Internal Pneumonolysis.**—Thoracoscopy is performed on all patients receiving pneumothorax in whom there are: (*1*) visible adhesions, (*2*) patent cavities or (*3*) positive sputum. A total of 511 operations were performed on 431 patients. In 272 cases, completely selective collapse was obtained. In 77, there was selective collapse but the lung remained adherent to the upper mediastinum. In 44, satisfactory collapse was not obtained and, in 38, no adhesions could be cut. Adhesion section was completed in one stage in 364 cases, two stages in 57, three stages in 7 and four stages in one. Sputum was positive on admission in 343 cases, negative in 36; on discharge it was positive in 44, negative in 336. In most of the persistently positive cases, there were other explanations than inadequate sectioning of adhesions. A cavity was visible preoperatively in 372 cases, not visible in 15 and questionable in 6; postoperatively, a cavity was visible in 40, not visible in 342, and doubtful in 11. Postoperative temperature was recorded in 259 cases. In 172 cases, it did not exceed 99° F. It was over 99° F. for one to three days in 176 cases, for four to seven days in 46 cases and for more than seven days in 37 cases. Hemothorax occurred in 42 cases. Obliterative pleuritis developed in 5 cases; this resulted from hemothorax in one case, rapid reëxpansion in 3 cases and pleural effusion in one case. No pleural effusion occurred in 207 cases; small transient effusions appeared in 87 cases and fluid sufficient to aspirate appeared in 106 cases. There were 26 empyemata, resulting from perforated tension cavities in 9 cases, fluid present prior to operation in one, tubercles on the pleura in one, hemothorax in one, spontaneous rupture of adhesions in one, and no known cause in 9.—*Internal Pneumonolysis, F. L. Wollaston, Lancet, September 20, 1947, 2: 424.*—(*A. G. Cohen*)

**Unorthodox Pneumothorax.**—Determination of satisfactory collapse by X-ray evidence of diminution in the size of the lung suggests that only the mechanical effects of collapse are of value, whereas several other factors are operating within the chest. Retraction, relaxation and rest of the diseased areas may be of more practical consideration than the actual degree of collapse. Inflation of air into the pleural cavity may well act as a nonspecific type of shock, thereby inducing hyperemia of the pleural membranes which in turn affect the underlying parenchyma. Mechanical irritation of the pleurae by air as a foreign body, sudden increase in intrathoracic pressures or sudden changes in intrathoracic temperature, drying of the pleural surfaces and traumatic irritation of the parietal pleura by repeated needling may all be influential in producing changes in the physiological functioning of the vascular and lymphatic structures in the pleural-subpleural area. The resulting harmless pleurisy may influence the diseased lung quite independently of "collapse" proper; hyperemia, exudation and fibrin formation have a direct influence on the underlying tissue. Vascular and functional connections between pleura and lung are evidenced clinically by the usual association of nearly all primary lung lesions, for example, pneumonia, with pleural reactions. Reversely, pleural irritations and hyperemia are likely to lead to vascular reaction within the lung tissue. Such a relationship is seen clinically by cases of cavity closure after the development of a simple pleural effusion. Further illustration of this principle is demonstrated by the effectiveness of pneumoperitoneum following an exploratory laparotomy for investigation of abdominal tuberculous lesions. Six cases of pneumothorax are reported in this paper to show how favorable results were obtained in healing parenchymal disease in spite of inadequate collapse as measured by roentgeno-

logical evidence of degree of lung retraction. In most cases the treatments were abandoned after the development of an effusion in the presence of multiple adhesions. The probable biological and functional relationship between the pleura and underlying parenchyma should be recognized as a prime factor in the effectiveness of pneumothorax therapy in addition to the purely mechanical effects of lung retraction and immobilization.—*Unorthodox Artificial Pneumothorax, E. G. Hoffstaedt & H. Miller, Acta tuberc. Scandinav., 1947, 21: 169.*—(*P. Q. Edwards*)

**Heart and Lungs in Thoracoplasty with Contralateral Pneumothorax.**—The cardiorespiratory effects of thoracoplasty with contralateral pneumothorax were studied in 10 patients: 7 men and 3 women (in one man on three different occasions and in another on two occasions). Maximum respiratory capacity for the whole group was found to be 48,000 cc. and minimum respiratory capacity 19,800 cc., while the respective figures for the women alone were 39,600 and 24,000 cc., the figures in both instances being much lower than in other groups studied. This shows that the combined procedure used in treatment decreased the available respiratory area more than any other collapse method. On the other hand, unilateral pneumothorax is the method affecting in the least degree respiratory capacity. Among 8 determinations in men signs of heart failure were seen in 6. In other words, as the respiratory area decreases, circulatory deficiency increases. The signs of cardiac trouble during exertion are again less common in unilateral pneumothorax and most frequent in thoracoplasty with contralateral pneumothorax. Bilateral pneumothorax and thoracoplasty behave indentically, occupying an intermediate place between the other two procedures. Spirography with a simple metabolimeter shows readily whether aeration of the blood is adequate, obviating the use of gas analysis methods. The respiratory equivalent records most accurately whether a patient is hyperaerating or not. Hyperaeration is present when the respiratory equivalent in an air environment exceeds the normal level (3:1) and drops to normal in an oxygen environment. An oxygen deficiency at rest is most unusual in collapse-treated patients. A psychogenous hyperaeration may lead to false interpretations and an exertion test is the best means to detect its presence. Determination of the maximum respiratory capacity permits determining what amount of overwork will cause an oxygen deficiency. An oxygen deficiency under exertion develops before the respiratory reserve is completely exhausted, but it seldom occurs while the reserve still exceeds 10,000 cc.—*Repercusión de la toracoplastia y neumotórax contralateral sobre la función cardio-respiratoria, J. Sancho Carino, Hispalis méd., June, 1947, 4: 291.*—(*A. A. Moll*)

**Types of Inexpansible Lung.**—The term "inexpansible lung," now so much in use in tuberculosis literature, should be better defined, and its confusion with chronic pneumothorax elucidated. A chronic pneumothorax is one which persists after the cessation of fillings. In order to call a lung "inexpansible," the organ must have collapsed as a result of an artificial pneumothorax. The added requirement of a dead pleural space is not essential. Actually, there are three types of inexpansible lung, namely, the chronic pneumothorax type with a gas or fluid-air-filled pleural space, the residual pleurisy or substitution effusion type with a fluid-filled pleural space, and the retractile hemithorax type without any intrapleural gas or air. Chronic pneumothorax is a sequel of a persistent pleural fistula. The other types are either the result of a rigid visceral pleura, of a sclerotic hardening of the parenchyma or less often of bronchial stenosis. For illustration purposes of the different types, 3 cases are reported all in women 18 to 34 years old. One was of chronic pyopneumothorax secondary to bronchopulmonary perforation, another of chronic partial hydrothorax following an effusion due to an inexpansible pulmonary lobe, and the third of hemithoracic retraction with large mediastinal pneumonoceles as a

result of a completely inexpansible lung.—*Neumotórax crónico y pulmón inexpansible, R. F. Vaccarezza & A. Soubrié, An. cáted. de pat. y. clín. tuberc., June, 1946, 8: 72.*—(*A. A. Moll*)

**Blood Pressure in the Pulmonary Circulation in Men.**—In 5 patients in a hopeless condition—4 of them with meningeal tuberculosis—the pressure in the pulmonary artery was determined through a puncture in the thoracic wall. A Hamilton manometer was used to register changes in pressure. The median values obtained, varying from 14.5 to 27.8 mm. and averaging 19.2 mm., were compared to those revealed simultaneously by the femoral artery, which varied from 114.9 to 154.7 mm. The ratio between the two varied from 1:41 to 1:10.2 and averaged 1:7.2. This agrees with the results in animals. The case with the highest pulmonary and lowest general blood pressure had an artificial pneumothorax, and this may have influenced the results. The effect of the respiratory movements was apparent in both circulations, although not necessarily parallel. —*Determinación de la presión arterial pulmonar en el hombre, R. F. Vaccarezza, A. Lanari & V. A. J. Alberti, An. Cáted. de pat. y clín. tuberc., June, 1946, 8: 29.*—(*A. A. Moll*)

**Return Venous Flow and Pulmonary Blood Pressure.**—Experiments in cats with uncut chests, with closed (fenestrated) chests but with the heart exposed, and with chests cut open, failed to show any corresponding increase or decrease in the blood pressure in either the pulmonary or the systemic circulation which would parallel changes in size in the return venous flow.—*Influencia del flujo venoso sobre la presión arterial pulmonar, V. A. J. Alberti, An. Cáted. de pat. y clín. tuberc., June, 1946, 8: 89.*—(*A. A. Moll*)

**Pulmonary Circulation and Systemic Blood Pressure.**—Experiments in cats showed that clamping of one of the branches of the pulmonary artery is followed by a slight transitory drop in the general blood pressure. When the main trunk is blocked the drop in pressure becomes progressive. In both instances a most marked pulmonary hypertension develops. In the one case in which a persistent hypotension in the systemic circulation occurred, this was attributed to the presence of heart failure, as confirmed by a similar drop in the pulmonary pressure.— *Variaciones de la presión arterial general consecutivas a la segregación parcial o total de la circulación pulmonar, V. A. J. Alberti, An. Cáted. de pat. y clín. tuberc., June, 1946, 8: 101.*—(*A. A. Moll*)

**Hilar Anatomy.**—In order to study the surgical anatomy of the hilar area, 50 lungs were dissected, the results being presented in a series of 17 illustrations. Jackson and Huber's classification, dividing the right lung into 10 and the left lung into 8 bronchial segments, has been adopted. The surgeon must keep in mind the crossing formed by the bronchial tubes leading to the middle and upper lobes and the middle basal segment with the tube for the other basal segments. In opposition to Boyden's views, the tube for the middle basal segment was found to start at the same level as the tubes for the upper and the middle lobes. In the right upper lobe and also in the middle lobe the presence of two collateral arteries is most common. A single collateral artery and three collateral arteries were found only once each. In the basal lobe, a single artery is the usual thing, but finding two collateral arteries is not uncommon. Striking venous abnormalities were seen in the right side. In one case, a vein from the upper lobe emptied into the upper cava, and in 2 other cases all the blood from the middle lobe drained through a single vein into the lower pulmonary vein. In another case, a vein from the left upper lobe emptied into the upper pulmonary vein. With but one exception, the lingual veins were tributaries to the upper pulmonary vein. The significance of the relations between the points of origin of the different arteries is emphasized. The presence of old healed processes and imbedded calcified nodes complicates the surgeon's task.

The significance of this paper, first of a series, is clearly brought out in its original illustrations.—*Contribución al estudio de la anatomía quirúrgica del hilio pulmonar, L. Gerez Maza, J. Rodríguez Arroyo & I. Purpón, Rev. mex. de tuberc., July, 1947, 8: 215.*—(*A. A. Moll*)

**Streptomycin in Experimental Tuberculosis.**—Experiments on 161 mice, using one or two milligrams of streptomycin daily, confirm the efficacy of this treatment for experimental tuberculosis. It does not entirely destroy the tubercle bacilli but stops their multiplication. This bacteriostatic effect aids the body cells in destroying or encapsulating the tubercle bacilli but there is no true sterilization. In spite of the prolonged survival of the animal, the organisms remain living and virulent and cessation of the treatment may be followed by reactivation of the disease. There is a striking similarity between test tube and animal experiments and the results of clinical observation.—*Etude expérimentale de l'activité therapeutique de la Streptomycine dans la tuberculose, C. Levaditi & A. V. Vaisman, Institute Alfred Fournier Paris, Presse méd. September 20, 1947, 54: 611.*—(*E. Bogen*)

**Streptomycin Therapy.**—Seventeen patients, 12 adults and 5 children, with meningeal, miliary or other forms of generalized hematogenous tuberculosis were treated with streptomycin. Highly purified streptomycin sulfate was administered for 120 days. Adults received a daily dose of 3 g. intramuscularly in six or eight divided doses; children received 20,000 mcg. per kilogram of body weight. Patients with meningitis received additional intrathecal streptomycin in doses ranging from 0.05 g. to 0.375 g. at intervals of twenty-four to seventy-two hours for periods of sixty to ninety days. The larger intrathecal doses were not well tolerated and the 0.1 g. dose was not exceeded during most of the investigation. Cultures for tubercle bacilli were made at two-week intervals during and following therapy. All tubercle bacilli were tested for drug sensitivity using the Dubos medium. There were 9 patients with bacteriologically proved meningitis. In 7, the meningitis was a complication of acute miliary tuberculosis; all 7 have died. The remaining 2 did not have miliary disease and have been in remission for five months following treatment. In the majority of patients who died, the meningitis ran a subacute or asymptomatic course and the clinical picture was dominated by the miliary tuberculosis. One infant died of internal hydrocephalus; postmortem examination revealed almost complete healing of the meningeal process. The 2 patients in remission show no clinical signs of neurological disease and the only spinal fluid abnormality is an elevated protein. Meningitis did not appear as a complication of miliary tuberculosis until after thirty-five to ninety-six days of streptomycin therapy. The meningitis often appeared at a time when the miliary disease appeared to be receding. The addition of intrathecal streptomycin resulted in some improvement but these patients went on to death or relapse in from twenty to 124 days after the first evidence of meningitis. After intrathecal therapy was started, the principal changes in the spinal fluid were disappearance of bacilli and increase of sugar. Irrespective of eventual outcome, the spinal fluid cell count and sugar remained elevated as long as treatment was continued. When treatment was stopped, the cell count fell rapidly but the protein remained elevated for long periods; these changes may be due to irritating effects of the drug. After a period of initial improvement in 13 patients with acute miliary tuberculosis, the clinical course followed one of four patterns: (*1*) Attainment of complete remission sustained for at least six months without therapy. This occurred in 2 patients. Much of the X-ray clearing occurred following completion of therapy. (*2*) Continued improvement with transformation of acute infection into chronic disease: one patient. (*3*) Remission of miliary infection with death from meningitis; one patient. Complete remission of the miliary disease was confirmed by postmortem study. (*4*) Partial or complete remission followed by fatal relapse despite uninterrupted treatment. This occurred in 5

patients and was the most frequent pattern. Relapse appeared as early as twenty days following institution of therapy and as late as three and one-half months after cessation of treatment. Tubercle bacilli isolated from 4 of these 5 patients at onset of relapse were highly drug-fast *in vitro*. One patient with tuberculous pericardial effusion and lymphadenitis and one with disseminated bone disease showed marked clinical improvement. There was rapid healing of draining sinuses in the latter case. No X-ray changes in the bone lesions have been noted during an eleven-month period. The patient with pericarditis is well and ambulatory eleven months after completion of treatment. Tubercle bacilli isolated before treatment in 15 of the 17 patients showed marked drug sensitivity and, in general, were inhibited by less than 2 mcg. per cc. The shortest period required for appearance of resistance was thirty-four days. In 2 patients, before institution of intrathecal treatment, organisms isolated from spinal fluid were sensitive even though bacilli from the accompanying systemic infection had already been rendered resistant (organisms not inhibited by concentrations of 500 mcg. per cc.) by previous parenteral treatment. There was a definite correlation between failure of therapeutic response and appearance of *in vitro* resistance. Resistant organisms were never isolated from the 7 patients who attained satisfactory remissions. Six of the 7 fatal cases of acute miliary tuberculosis have been examined postmortem. Varying degrees of healing were observed. Complete healing of miliary lesions was seen in the infant who died of internal hydrocephalus. One patient presented the picture of partially healed tubercles which had broken down to form recent active disease. Tuberculin testing at monthly intervals during and after treatment revealed no significant changes. Observations on development of drug-fastness suggest that it may be best to limit streptomycin treatment to only six or eight weeks in order to decrease the risk of relapse with resistant organisms. The low incidence of successful treatment in meningitis may be due, in part, to the fact that the natural mechanisms of defense are less efficient in the central nervous system than in the lung.—*Streptomycin in the Treatment of Tuberculosis in Humans: I. Meningitis and Generalized Hematogenous Tuberculosis, W. McDermott, C. Muschenheim, Susan J. Hadley P. A. Bunn & Rosemary V. Gorman, Ann. Int. Med., November, 1947, 27: 769.—(H. R. Nayer)*

**Streptomycin Therapy in Greece.**—Seventy-eight patients with tuberculosis treated at the Sismanoglion Tuberculosis Institute in Athens before May, 1947 showed striking improvement in spite of the small amount of streptomycin available. The majority received only one ounce or less total dose and none had had more than a few months of treatment. Although the figures in the tables in Greek and in English do not quite balance and the data are premature and far from sufficiently critically studied, they support similar findings elsewhere.—*Streptomycin in the Treatment of Tuberculosis, S. Papaemanuel, Director General & Director of the First Pathologic Clinic, Sismanoglion Tuberculosis Institute, Athens, May, 1947, 80 pages in Greek, 22 pairs of X-ray illustrations, 28 references in bibliography and complete English translation, totaling 200 pages, paper bound, Athens, 1947, private publication.—(E. Bogen)*

**Streptomycin in Tracheobronchial Tuberculosis.**—The results obtained with streptomycin in 5 cases of tracheobronchial tuberculosis encourage the belief that the long sought specific treatment for this condition is at last in sight. Systemic treatment should, of course, aim primarily at the lesion in the lung while topical care should be based on the circumstances of the individual case. Up to now, cauterization with silver nitrate has been used with fair results in the way of improvement, but occasionally tenderness and even progression of lesions occurred. The series studied includes 186 patients in a 4.5-year period. Among them, 141 had pulmonary tuberculosis and 67 (46.2 per cent) tracheobronchial lesions. Prevalence in pulmonary cases averaged 16

per cent. Best diagnostic guides are clinical signs and symptoms and X-ray findings, the former being more reliable. Bronchoscopy should be undertaken only when symptoms suggest the possibility of complications developing as a result of the treatment advised. Thoracoplasty, if feasible, is the treatment of choice when tracheobronchial involvement is associated with lesions in the upper lobe. When successful, tracheobronchial lesions heal spontaneously. Aspiration of residual cavities following pneumothorax and atelectasis may prove useful.—*Tráqueobronquite tuberculosa, E. Etzel, Clín. tisiol., (Rio de Janeiro), April–June, 1947, 2: 167.*—(*A. A. Moll*)

**Antibiotics.**—The history of antibiotic treatment of tuberculosis is reviewed from the first application of bacteriotherapy by Catani in 1885 to the most recent investigations. Antibiotics are produced by various members of all major groups of microörganisms, namely, fungi, bacteria and actinomyces. Among the fungi *Aspergillus fumigatus* received particular attention (fumigacin). Antituberculosis properties of the spore-forming aerobic bacteria were also given special consideration; subtilin, eumycin and bacillin are the best known preparations. Other antibiotics were obtained from some non-spore-forming bacteria (pyolipic acid) and from certain streptococci. The actinomyces comprise a number of organisms which produce antibiotics active against tubercle bacilli: actinomycin, litmocidin, nocardin, streptothricin and streptomycin. Some higher plants produce substances with tuberculostatic and tuberculocidal properties (phytoncides). Indications for and results of streptomycin treatment are discussed in detail.—*Antibiotics and Tuberculosis: A Microbiologic Approach, S. A. Waksman, J. A. M. A., October 25, 1947, 135: 478.*—(*H. Abeles*)

**Tuberculous Meningitis.**—A patient with miliary tuberculosis and proved tuberculous meningitis was treated by intrathecal and intramuscular administration of streptomycin. The patient recovered completely and remained well during a follow-up period of nine months.—*Tuberculous Meningitis and Miliary Tuberculosis Arrested with Streptomycin, E. Applebaum & C. Halkin, J. A. M. A., September 20, 1947, 135: 153.*—(*H. Abeles*)

**Tuberculous Meningitis.**—A patient with a pleural effusion and minimal pulmonary tuberculosis developed tuberculous meningitis while under treatment by bed-rest. Early administration of streptomycin resulted in recovery from the meningitis.—*Streptomycin in Tuberculous Meningitis, C. P. Mehas & W. E. Truax, J. A. M. A., September 20, 1947, 135: 155.*—(*H. Abeles*)

**Tuberculous Rheumatism.**—A boy aged 16 developed a sore throat. Four days later pleuritic pain appeared. Later there was X-ray evidence of infiltration of the lung and enlargement of the mediastinal nodes. Still later there was a febrile episode with pericarditis, myocarditis and joint pains. This eventually subsided. The tonsils were then removed; histological examination revealed caseous tuberculosis. Three weeks later the patient developed a pleural effusion. The sequence of events leads the author to believe that the joint symptoms were a manifestation of tuberculosis.—*Tuberculous Rheumatism, R. J. T. Woodland, Lancet, October 11, 1947, 2: 540.*—(*A. G. Cohen*)

**Gland Biopsies in Joint Disease.**—Valls, of Buenos Aires, (1933) first published the results of lymph gland biopsy as an aid in the diagnosis of tuberculous bone and joint disease. This paper reports the results of 100 gland biopsies carried out to assist in the diagnosis of arthritis in various joints. The iliac gland was the one used routinely for hip and upper femoral disease, the inguinal gland for infections of the knee, ankle, and foot, and the axillary glands for joints of the upper limb. There were 33 (56 per cent) positive results in 59 cases of tuberculous infection. A positive biopsy does not necessarily mean that the joint is tuberculous, because it may be an old

burned-out process not related to the localized joint infection. Positive results seem to be more likely if the biopsy is done early in the disease (71 per cent). An early positive biopsy gives strong support to a tuberculous infection and may appear before X-ray changes. Gland biopsy should be added to other clinical findings, including X-ray and sedimentation rate, to obtain an accurate diagnosis of chronic bone and joint disease.—*Lymph Gland Biopsies for Suspected Bone and Joint Tuberculosis: An Analysis of 100 Consecutive Cases, G. P. Arden & J. C. Scott, Brit. M. J., July 19, 1947, 4515: 87.*—(*R. W. Clarke*)

**Adrenal Function in Tuberculosis.**—The Robinson, Power and Kepler test for adrenal insufficiency was performed in 32 cases of pulmonary tuberculosis. These patients did not have clinical Addison's disease. In 13 of these the test was positive, indicating some degree of adrenal cortical insufficiency. The test was found to be positive more frequently in patients in poor general condition. The individuals with positive tests were treated with a synthetic cortical hormone (Corticon or Percorten) for varying periods of time, resulting in a reversal of the Robinson, Power and Kepler test to normal in all cases except one.—*La prueba de Robinson, Power y Kepler en enfermos con tuberculosis pulmonar, J. Casas Carnicero & E. Aguiar Soto, Rev. españ. de tuberc., July, 1947, 16: 523.*—(*F. Perez-Pina*)

**Fluorescence Microscopy for Detecting Tubercle Bacilli.**—By using a two-thirds inch objective in fluorescence microscopy a smear may be traversed at a greater speed than possible when using an oil immersion objective in normal microscopy, since the brightly fluorescing tubercle bacilli readily attract the eye. Therefore, by using this method one should expect an increase in the number of positives obtained. This theory was put to test in a hospital of 210 beds. Prior to this investigation, a study of 500 direct smears of sputum yielded 45 per cent positives. In this investigation, 500 consecutive routine sputum specimens were studied by both methods. All smears were first examined by the fluorescence method; they were then restained by the Ziehl-Neelsen method and reëxamined on the following day without knowledge of the previous findings. The time elapsing from the first focusing to the first detection of bacilli was noted. Negative reports were rendered only when the same smear was examined by each method for eight minutes. Cultures were made in cases where one or both methods gave either negative or doubtful results. As a result of these studies, it was found that the modified Ziehl-Neelsen technique yielded 1.4 per cent more positives with an expenditure of less time than that required by the fluorescence technique. The modified Ziehl-Neelsen method required an average of six seconds less time per smear. In the case of the Ziehl-Neelsen technique, more than twice the number of doubtful positive results were confirmed by culture than was true for the fluorescence technique. It is concluded that the fluorescence technique does not offer advantages over the Ziehl-Neelsen procedure. The value of cultures in cases of negative or doubtful positive smears is established.—*Detection of Mycobacterium Tuberculosis by Means of Fluorescence Microscopy, G. D. A. Briggs & M. H. Jennison, Tubercle, September, 1947, 28: 189.*—(*A. G. Cohen*)

**Laryngeal Swab Cultures.**—Laryngeal swabs for serial culture specimens are being used quite extensively in situations where obtaining gastric specimens is not feasible or practicable. The possible shortcoming of this method—a lesser yield of positives—is overcome by the more frequent taking of specimens for examination. The technique employed successfully involves placing a sterile swab carefully in the laryngeal area, behind the epiglottis, while the patient is asked to cough. Droplets of coughed sputum are thus collected on the swab, which is then replaced in a sterile test tube for neutralization. Fluid medium is added to the swab, and from this two tubes of solid egg medium are

inoculated. The swab is not discarded at this time but rather immersed in another tube with fluid medium—the "deep swab culture" —in order to utilize all available cough droplets containing bacilli. Positive results from this method vary from 13.5 to 28.8 per cent among patients whose sputum is negative on microscopic examination.—*Deep Swab Culture: A New Method for Cultural Demonstration of Tubercle Bacilli, L. Sula, Acta tuberc. Scandinav., 1947, 21: 160.*—(*P. Q. Edwards*)

**Depth Cultures for Tubercle Bacilli.**—Except in rare cases, it appears that until recently tubercle bacilli did not grow, or grew poorly, in the depth of liquid media when a small number of bacilli were inoculated. Besredka's medium enables deep growth of young cultures in very small amounts: $10^{-5}$, $10^{-6}$ and $10^{-7}$ mg. The duration of the latent phase of the culture which extends from three days to one month or more varies with the type of bacilli, the particular batch, and the richness of the inoculum.—*Sur La végétation du bacille de Koch en profondeur, A. Boquet & A. Andrejew, Ann. Inst. Pasteur, September, 1947, 73: 928.*—(*P. Q. Edwards*)

**Streptomycin Titration.**—The titration of streptomycin against several organisms produced results with wide variations. The lowest readings were obtained in broth (with one exception), and invariably the highest readings were found in serum-water medium. The results in human blood are usually considered higher than in broth. The salt content of the medium is important, and to some extent saline solutions inhibit streptomycin. It was found that with some test organisms a higher concentration of streptomycin was required to inhibit growth in an anaerobic environment. In using capillary tubes and test tubes, it was noted that when both were open the results were identical, that when the capillaries were sealed in flame, more streptomycin was required to inhibit growth, and that still more was needed when they were incubated vertically. This may be due in part to the diminished access to air in the closed tubes. These results were obtained with *B. coli*, Friedländer's bacillus and staphylococcus, but when streptococcus was used as the test organism, the end point was the same whether the capillaries were open or closed and whether they were incubated horizontally or vertically. When testing normal sera for streptomycin, the sera should be inactivated before use. Inactivation of by heat (half an hour at 56° C.) did not destroy the streptomycin. The method for titrating streptomycin in serum is given in detail.—*Some Problems in the Titration of Streptomycin, J. R. May, A. E. Voureka & A. Fleming, Brit. M. J., May 10, 1947, 4505: 3.*—(*R. W. Clarke*)

**Purified Tuberculin.**—Shortly after the appearance of PPD, investigations were begun in Denmark to find an adequate and practically serviceable method for the production of purified tuberculin. These investigations resulted in the procedure published in 1938 by K. A. Jensen, Bindslev, Møller, Hansen and Lind. During the performance of these experimental investigations it was realized that the very method for the preparation of purified tuberculin as well as the properties of the purified tuberculin were associated with many problems that might be investigated. These studies were begun in 1940 and the outcome is the present paper. Detailed description is given of the technique employed in the production of purified protein as well as pertinent historical background material.—*Purified Tuberculin, Its Preparation and Properties, P. Lind, Acta tuberc. Scandinav., 1947, 21: 111.*—(*P. Q. Edwards*)

**Tuberculin and Tubercle Bacillus Allergy.**—Simultaneous comparisons of tuberculin reactions and cutaneous BCG reactions in 124 allergic persons in various stages of a tuberculous infection showed a high degree of parallelism. The BCG tests were made by pricking the skin two or three times, using a vaccine containing 20 mg. BCG per cc. Tuberculin tests were the usual Mantoux test, read in

forty-eight hours. In general, the size of the pustules and the duration of the reaction ran a course parallel to that of the size of the infiltrations caused by the tuberculin. Tuberculin allergy, however, showed a wider range of fluctuation than BCG allergy. Experimental studies with guinea pigs revealed a comparatively insignificant reduction in the size of BCG reactions after tuberculin desensitization of the animals. Combined desensitization with tuberculin and BCG reduced the reaction to cutaneous BCG tests more effectively than desensitization with tuberculin alone or BCG alone. This may be caused by injection with BCG of certain other substances having the same action as tuberculin, the differences observed in the reactions being explained as the result of increased tuberculin desensitization. If this were so, one would expect to find a similar difference in tuberculin reactions in the corresponding groups. This was not the case. There would seem to be no reason for assuming that the animals given BCG injections as a supplement to tuberculin were essentially better tuberculin-desensitized than the animals treated with tuberculin alone. Experimental results seem to fit in best with the assumption that the tubercle bacillus contains other allergens than the antigens in ordinary tuberculin and that it is possible to a certain extent to desensitize the organism in relation to these other allergens.—*The Connection between Tuberculin Allergy and Tubercle Bacillus Allergy, O. K. Thomassen, Acta tuberc. Scandinav, 1947, 21: 87.*—(*P. Q. Edwards*)

**Tubercle Bacilli and Isoallergic Encephalomyelitis.**—This work extends the recent observations made by Morgan, and Kabat, Wolf, and Bezer, that encephalomyelitis may be produced in rhesus monkeys by a few injections of suspensions of homologous nervous tissue combined with killed tubercle bacilli and water-in-oil emulsion. In the present investigation the authors employed guinea pigs treated with either guinea pig or rabbit brain combined with water-in-oil emulsion and human tubercle bacilli or *M. butyricum*. A single subcutaneous injection induced paraplegia three or four weeks later in most animals. The brain tissues of both species of animal were effective and either acid-fast bacillus could be used. Animals which received the rabbit brain also developed delayed cutaneous sensitivity to this material; those which received guinea pig brain did not develop such responsiveness. Other tissues employed in the same combination did not cause neurologic symptoms nor lesions. Histologic study revealed vascular lesions in the brain, cord and some of the anterior roots of the cord. These consisted of thrombosis, perivascular infiltration, occasional microscopic hemorrhages, and the accumulation of inflammatory cells in the parenchyma. The authors believe that these reactions are probably allergic in nature, since the effect could not be transferred passively and because of the occurrence of cutaneous and systemic reactions to nervous tissue antigen.—*Isoallergic Encephalomyelitis and Radiculitis in Guinea Pigs after One Injection of Brain and Mycobacteria in Water-in-Oil Emulsion, J. Freund, E. R. Stern & T. M. Pisani, J. Immunol., October, 1947, 57: 179.*—(*S. Raffel*)

**Radiologic Aspects of the Lung in Circulatory Insufficiency.**—This subject has been reviewed by a number of French writers to whom the author refers. The hilar shadows are due essentially to the pulmonary arteries. Their exact topography has been determined precisely by postmortem opacification of the arteries, and in the living by angio-pneumography. The pulmonary veins, on account of their more reduced calibre and their location, normally have no part in the radiologic picture of the hilum. The framework of the parenchyma is indicated by multiple branching shadows of arteries and arterioles, closely connected with the bronchi and bronchioles. Stasis of the blood can be measured by determination of the circulation time (arm-tongue tests) and this permits one to distinguish between dyspneas of cardiac and those of respiratory origin. The presence of râles is

not necessarily a sign of stasis. It simply indicates the presence of fluid in the bronchioles. An important element in radiologic diagnosis is the heart silhouette, which is always altered. General clinical examination is always necessary and may be very helpful in interpretation of shadows. Dyspnea is always marked. The X-ray is only one element in the diagnosis. Radiologic anomalies are of three classes: vascular, parenchymatous and pleural. Vascular anomalies include hilar and trabecular changes. The hilar structures, especially on the right, are more evident, but their borders are somewhat less well defined and faint. Their central areas are denser than under normal conditions and vary with the degree of cardiac insufficiency present. The pulmonary veins filled with blood may become visible. The first stage of change in the parenchymal area consists in the appearance of rounded nodules due to the crossing of shadows of overfilled arterioles or alveolar exudates, which may vary in size in the two lung fields. These may combine to form areas of irregular size rather easily mistaken for early tuberculosis, especially as the patient may also have slight hemoptysis. In certain cases there is enlargement of the azygos vein which may be as large as a thumb. Sometimes the crook of the azygos vein forms an obtuse angle with the right bronchus in which a shadow like an inverted comma appears; this indicates congestion. The azygos vein itself becomes enlarged when there is increased venous pressure. The presence of fluid in an interlobar fissure may make definite opaque lines or bands in certain cases. In other cases the shadows are not as well defined and can only be brought out in special positions. Sometimes rounded or racquet-shaped shadows are produced. Transudates into the large intrapleural cavities produce familiar radiologic pictures, too well known for special comment and not likely to cause diagnostic difficulties.—*Aspects radiologiques du poumon au course de l'insuffisance circulatoire, H. Durieu, Rev. belge de tuberc., 1947, No. 2, 182.*—(*A. T. Laird*)

**Cavernoscopy and Cavernography.**—Cavernograms become essential for exploratory purposes in order to define the surgical problem in the presence of tuberculous cavities. They will also help in judging the advisability of trying a preliminary aspiration according to Monaldi's method. A typical case is described to show that, in a cavitary process where collapse does not seem feasible with the routine methods, the walls may not be as rigid as believed and retraction is still possible. Fluoroscopy and roentgenography may suggest a larger amount of lost parenchymal tissue than is actually the case, and there may be around the cavity compressed pulmonary tissue which may reëxpand under favorable conditions and promote the healing of the cavity. Cavernoscopy is a most valuable and harmless supplementary exploratory aid. It should be used especially in cirrhotic cavities to appraise the degree of collapse to be obtained with surgical measures and the type and shape of the outlet of the draining bronchial tube. Cavernoscopy was tried in 10 cases with Maurer's thoracoscope, either as a preliminary to endocavitary aspiration or as an independent means of exploration.—*Estudio de la caverna tuberculosa por el cavernograma y la cavernoscopia, J. A. Verna, S. A. Sarmiento & C. Ludueña Funes, Arch. de Secretaria de Salud Púb. Nac., March, 1947, 1: 5.*—(*A. A. Moll*)

**Pneumonia in Egyptian Children.**—Three hundred cases of pneumonia in children of poor families were treated in the two years before April, 1947. The incidence was highest in children under 2 years of age, the fatality rate was highest in those less than a year of age, and the greatest number of cases (78 per cent) occurred between December and May. Lobar pneumonia was diagnosed in 206 cases: 107 were given chemotherapy (chiefly sulfadiazine), and had a fatality rate of 5.6 per cent, and a complication rate of 9.4 per cent; 99 were given penicillin, with a fatality rate of 1.1 per cent, and complications in 8 per cent. Crises within twenty-

four hours occurred twice as often with penicillin. Bronchopneumonia was diagnosed in 94 cases: 40 received chemotherapy, with a 25 per cent fatality and a 20 per cent complication rate; 19 received penicillin, with a 21.2 per cent fatality, and a 20.8 per cent complication rate; 35 received both drugs, with an 8.6 fatality and 5.7 per cent complication rate. Penicillin-in-oil was given in a single massive dose (25,000 to 30,000 units per Kg. body weight) to 24 children with lobar pneumonia: there were no deaths, and 91.6 per cent recovered completely, with crises in the first day. Because of the simplicity and good results of this method, it may become the treatment of choice for children.—*Pneumonia in Children, A. S. A. Abbasy, Arch. Pediat., August, 1947, 64: 403.*—(*W. H. Oatway, Jr.*)

**Pneumonia Caused by Proteus.**—A 63-year-old woman was hospitalized with the complaints of chills, vomiting, nausea and diarrhea. Urine and feces cultures were positive for *Proteus mirabilis*. On the eleventh hospital day the patient developed a high fever and a right basal pneumonia. Blood and sputum cultures were positive for *Proteus mirabilis*. The patient was treated with penicillin and streptomycin but neither of them exerted a direct effect on the primary infection. The patient was discharged from the hospital after sixty days.—*Pneumonia Due to Proteus Mirabilis Treated with Penicillin and Streptomycin, L. D. Snorf, L. Shepanek, E. E. Foltz & H. Harding, J. A. M. A., September 27, 1947, 135: 222.* —(*H. Abeles*)

**Rheumatic Pneumonitis.**—A 25-year-old white woman with mitral stenosis with repeated bouts of congestive failure was seen. The patient had several febrile episodes during which leucocytosis and neutrophilia were observed. Chest roentgenograms showed a confluent pneumonic consolidation of the base of the right lung. The diagnosis of rheumatic pneumonitis was considered. The findings at autopsy were: mitral stenosis, verrucous endocarditis, myocarditis, pneumonopathy with diffuse fibrosis and partly healed arteritis, chronic passive hyperemia, acute parenchymatous degeneration of liver and kidneys. The pulmonary lesions were the same as those found by others in rheumatic pneumonitis.—*Rheumatic Pneumonitis: A Case of widespread (Proliferative) Type with Acute (Exudative) Foci, E. E. E. Muirhead & A. E. Haley, Arch. Int. Med., September, 1947, 80: 328.*—(*G. C. Leiner*)

**Pleurodynia.**—From July to November, 1947, a large number of cases of "pleurodynia" were seen in the Boston area. The disease generally appears in the late summer or early fall. It affects mostly young people. It is characterized by a sudden onset of pain in the abdominal region, generally along the line of attachment to the diaphragm. The pain is aggravated by motion and breathing. The temperature may go as high as 104° F. but often falls within twelve hours. There may be one or two recrudescences of pain and fever during the following ten to fourteen days. Examination reveals splitting of the chest or upper abdomen. Thoracic tenderness and a fraction rub may or may not be present. X-rays are normal. The total white blood count is normal but there may be an eosinophilia during convalescence. Complications are rare and consist of orchitis, pericarditis and jaundice.—*Pleurodynia, J. J. Finn, Jr., New England J. Med., October 23, 1947, 237: 621.*—(*A. G. Cohen*)

**Coccidioidomycosis.**—Four cases are presented, all of men who had performed military service in endemic areas several years previously. All had minimal pulmonary lesions in the subsiding phase. One patient had an active granulomatous lesion of the lip.—*Coccidioidomycosis in New England, E. R. H. Kurz & N. W. Loud, New England J. Med., October 23, 1947, 237: 610.*—(*Q. G. Cohen*)

**Coccidioidomycosis.**—The spherules of *C. immitis* remain viable under certain conditions

and do not produce hyphae and chlamydospores in exudates from human sources for at least 110 days. By instilling spherule-containing sputum or exudates from human or animal sources into the bronchi of guinea pigs and propelling them by air pressure into the finer ramifications of the bronchioles and alveoli, it is possible to produce coccidioidomycosis in 100 per cent of the animals. The lesions are localized for the most part in the upper portions of the lungs, are single or multiple, have a lymph node component and are not generalized, thus simulating the human infection. These experiments show that spherules (or sporangia) can be infective through the respiratory route from man to animal and from animal to animal. It is concluded that active primary or progressive coccidioidomycosis in human beings should be considered contagious until proved otherwise. (Authors' summary.)—*Contagiousness of Coccidioidomycosis: An Experimental Study, S. R. Rosenthal & J. B. Routien, Arch. Int. Med., September, 1947, 80: 343.*—(G. C. Leiner)

**Pulmonary Hydatid Disease.**—A case of hydatid cysts of the lung, requiring three operations in a two-year period, and taken out of a large series, is described at length to drive home certain telling points in this branch of thoracic surgery. This is important in a country such as Uruguay where the condition is so prevalent. Pulmonary echinococcosis causes no symptoms in its early stages. When signs and symptoms develop following spread, it is already too late for effective treatment. The remedy is to conduct annual fluoroscopic mass surveys in all infected areas. The time to operate is before complicating lesions develop, as these can be cured only through extensive pulmonary resections. As the repeated dangerous hemoptyses are due to openings into the bronchial system, the only definite hope of cure lies in a lobectomy in the sector involved to remove all possibility of further spread from the infected lobe. Secondary cysts develop at the rate of 3 to 3.5 cm. a year. The old division of cysts into central and peripheral must be discarded with its implied suggestion that different methods are required to handle them. In order to minimize chances of contamination, cysts are no longer drained before removal. The pulmonary parenchyma is now cut open above the projecting cyst, bleeding is controlled by pressing together the cut ends between the forefinger and thumb, and as the gas pressure is increased by the anesthetist, the entire cyst is pushed out. The opening may be sewn together immediately as there is no inside contamination. Through visual examination and palpation it is easy to locate all cysts present, once the pulmonary parenchmya is completely collapsed. Total lobectomy may be considered in the presence of many scattered cysts in the same lobe. When they are small, cyst removal seems preferable. In the case described, four cysts were taken out of the middle lobe in preference to lobectomy, and the lobe later became adequately functional. This course proved most wise, as an irreversible lesion in the left lower lobe will eventually compel its removal.—*Equinococosis pulmonar: Su tratamiento quirúrgico, J. Soto Blanco, Hoja tisiol., June, 1947, 7: 101.*—(*A. A. Moll*)

**Chronic Pneumothorax as Sequel to Pleural Fistula.**—In 8 cases of chronic pneumothorax, the coexistence of a bronchopleural fistula was demonstrated through examination of the pleural gas contents. In any case of persistent pneumothorax with no decrease of the gas contents after discontinuing fillings for three months, a diagnosis of pleural fistula is justified. Any persistence of pleural distension in such cases calls for a study of the gas contents to confirm or disprove the diagnosis. —*Estudio de los gases pleurales en el neumotórax crónico, P. F. Vaccarezza, A. Soubrié & F. H. Labourt, An. cáted. de pat. y clín. tuberc., June, 1946, 8: 59.*—(*A. A. Moll*)

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